Tutorial 2

Goals:

- Extrapolation of Model from images
- Creation of simple car
- Creation of Simple character

Load up Maya

Build Object: Quick Model – Create Polygon

Aim: Using a simple image a fast extrapolation of a car polygon will be built.

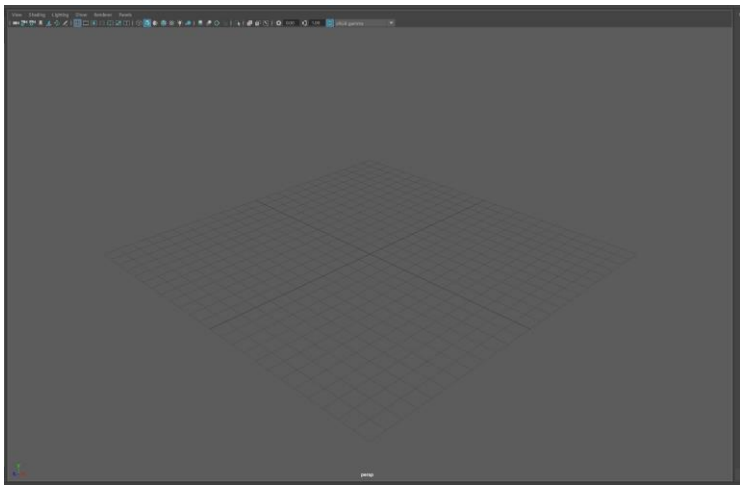
Create an image file (jpg/png) from the below image.

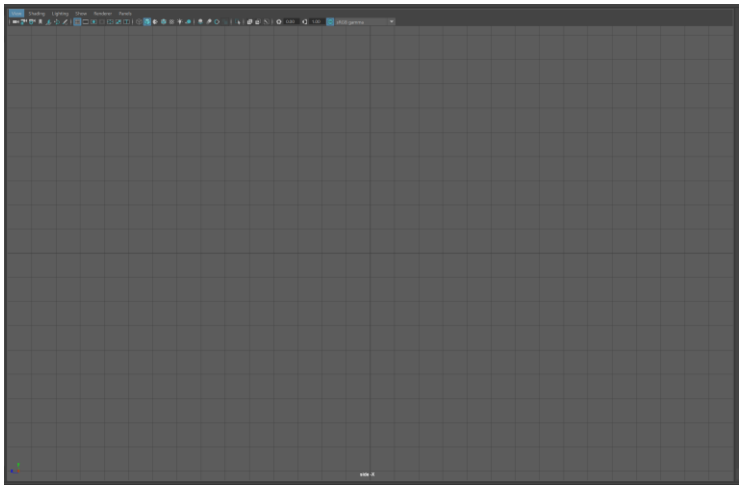
To use this reference image, we will need to go into the 4-split view from perspective view. This can be done using the spacebar or, by clicking on the 4-way panel layout shown in the toolbar.

As you can see, the toolbar offers single view(Perspective), the 4-way view (perspective, front, side and top) a 2-way split (defaults to front and perspective) and the outliner panel hide/show option.

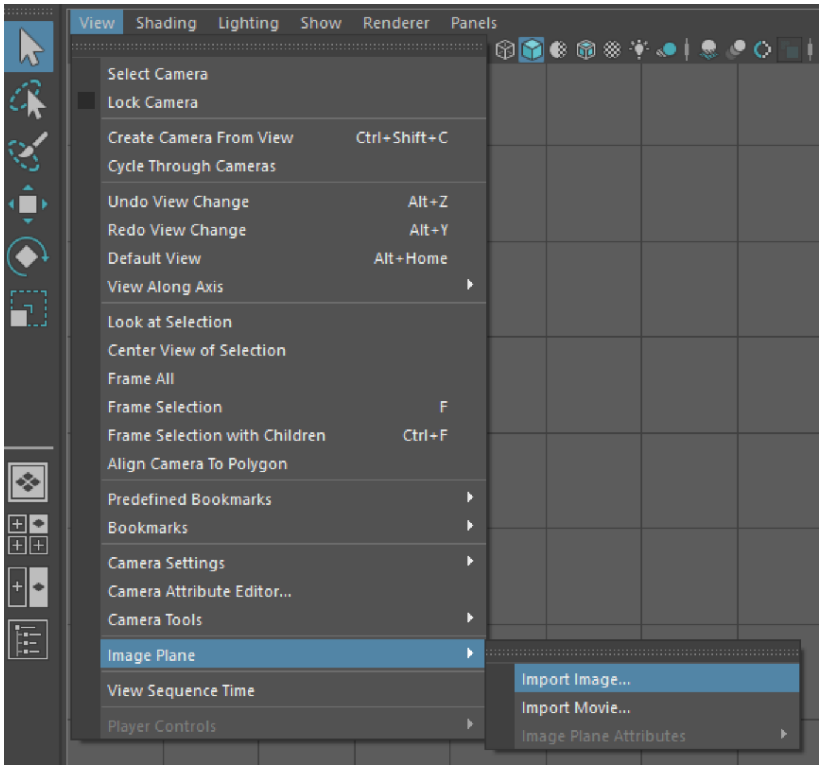
From the 4-way, left click on the front view and hit spacebar. This will maximise the front view.

From perspective view go to the side view.

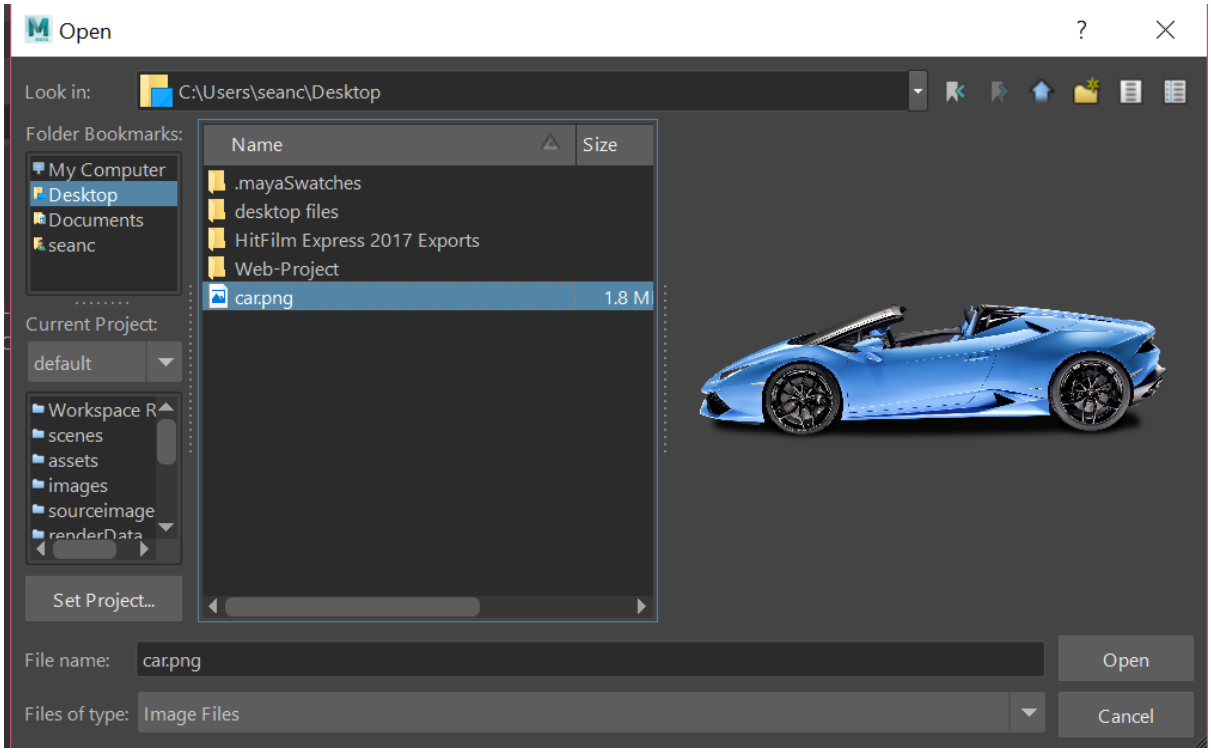




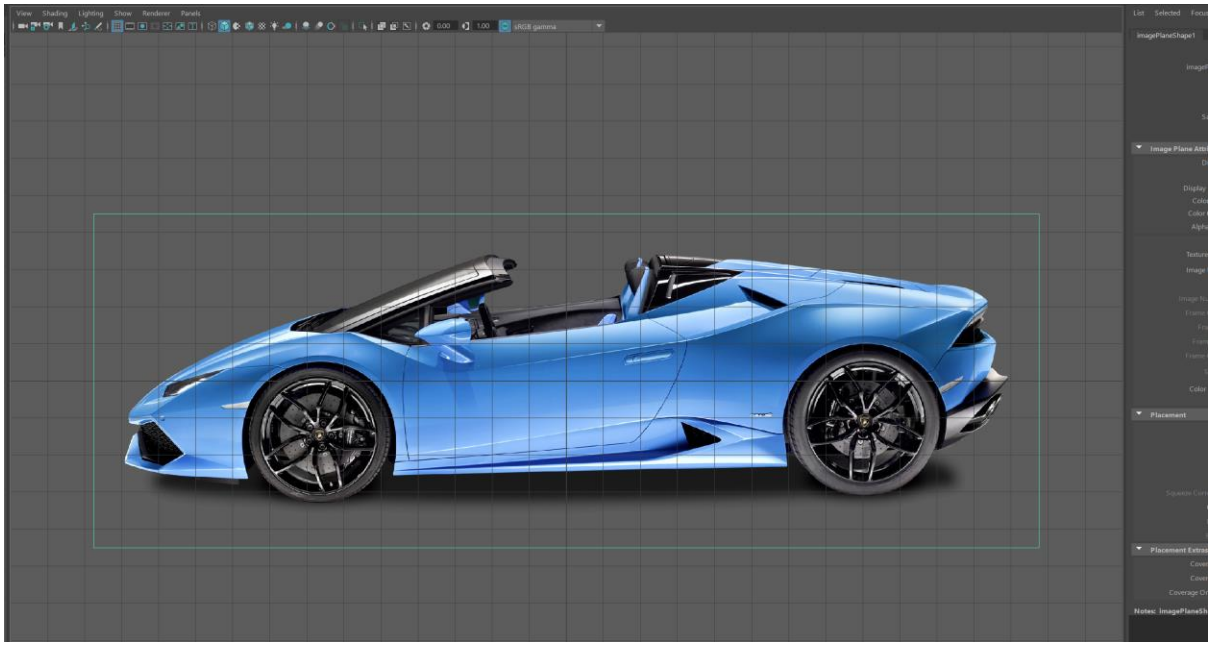
To insert an image plane, select view -> image plane -> import image from the drop down menu on the view.



Browse the computer's files to locate the reference image.

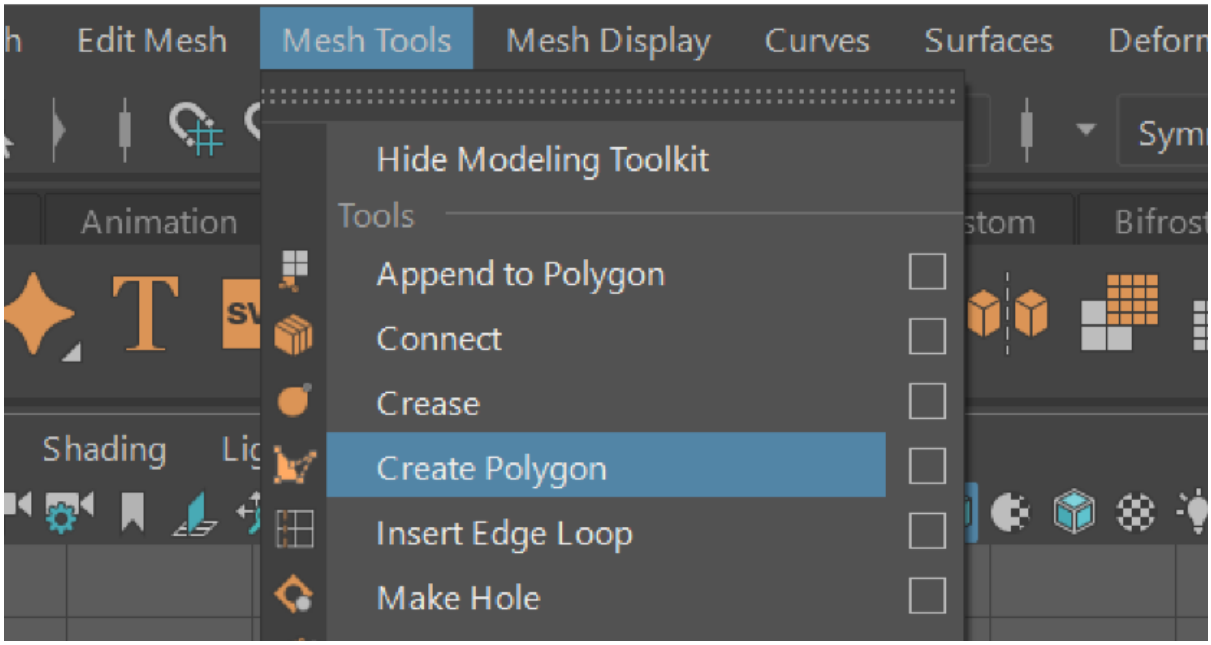


This should then give you the following screen layout.

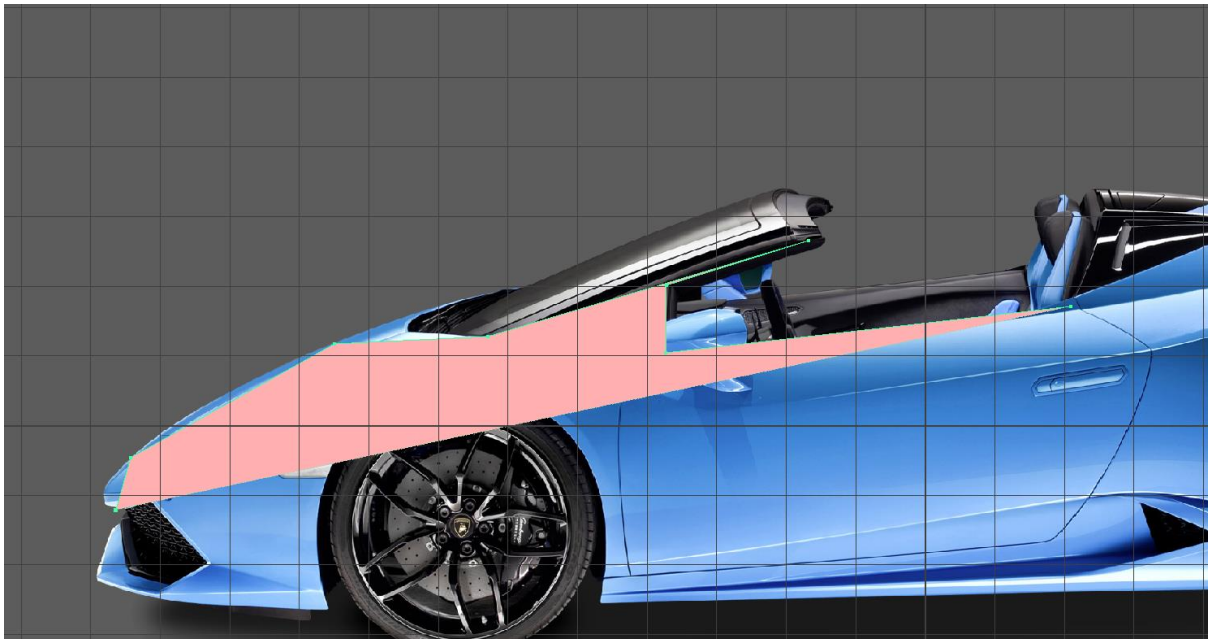


From here, we will need to create a polygon over the image.

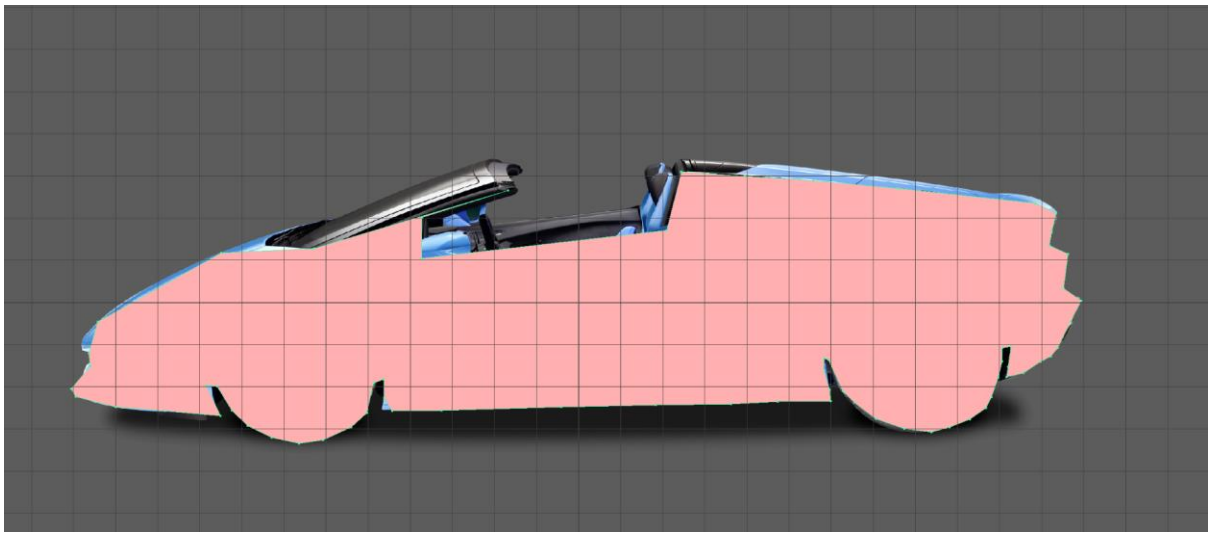
Click off the image and then from the menu system, Mesh Tools->Create Polygon



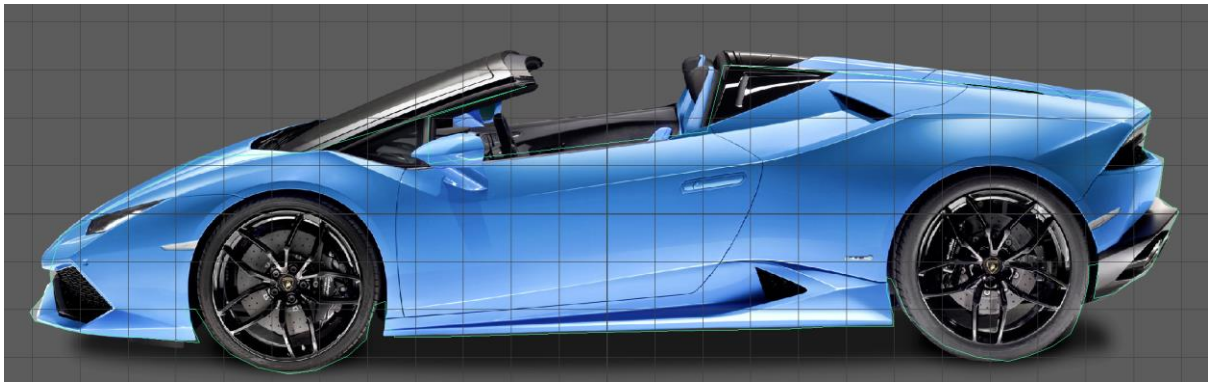
From here, start clicking on point on the car image



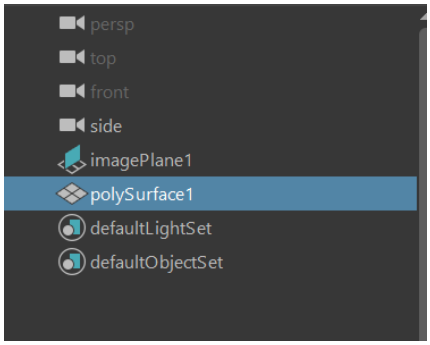
Encircle the car until you have a rough completed model of the car.



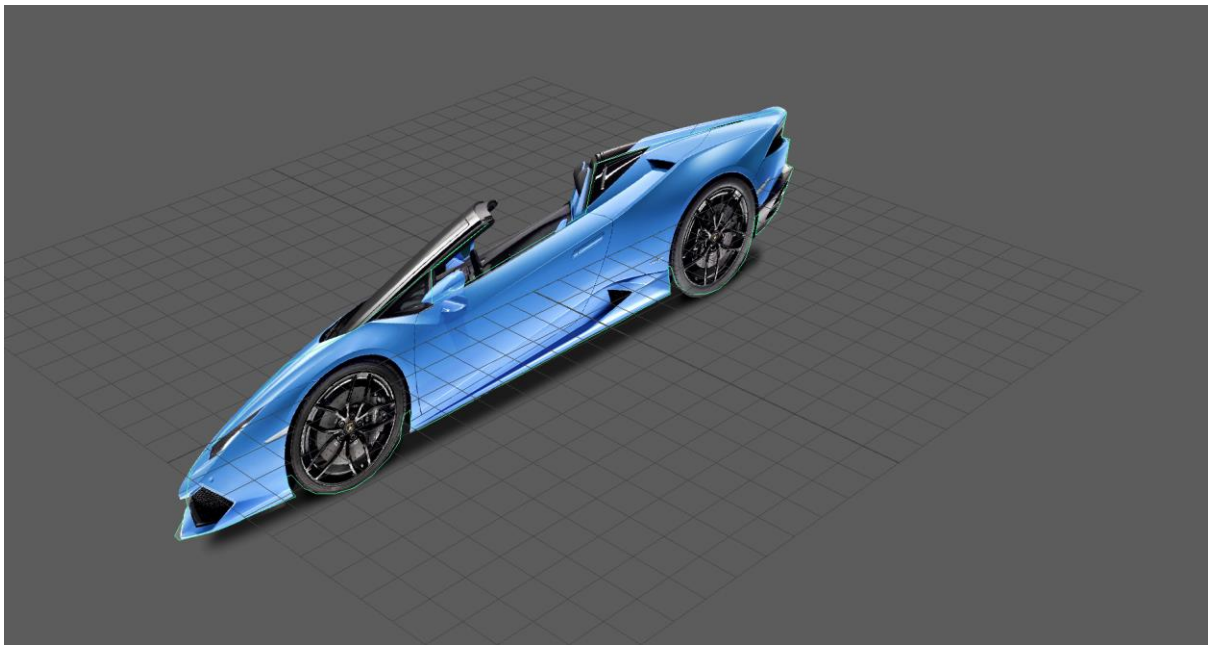
Once you have gotten the polygon shape to look close enough to the car, hit the Enter key to finalise. This will then produce the following, notice the green outline, that's our newly created polygon.



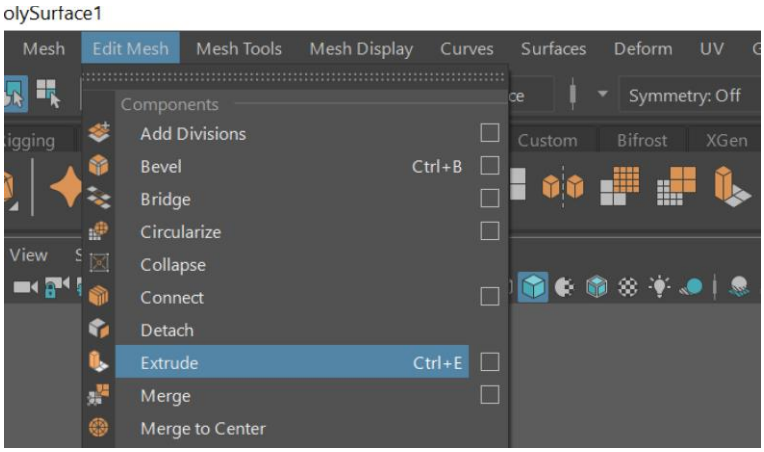
If you look in the outliner, you can see the poly surface



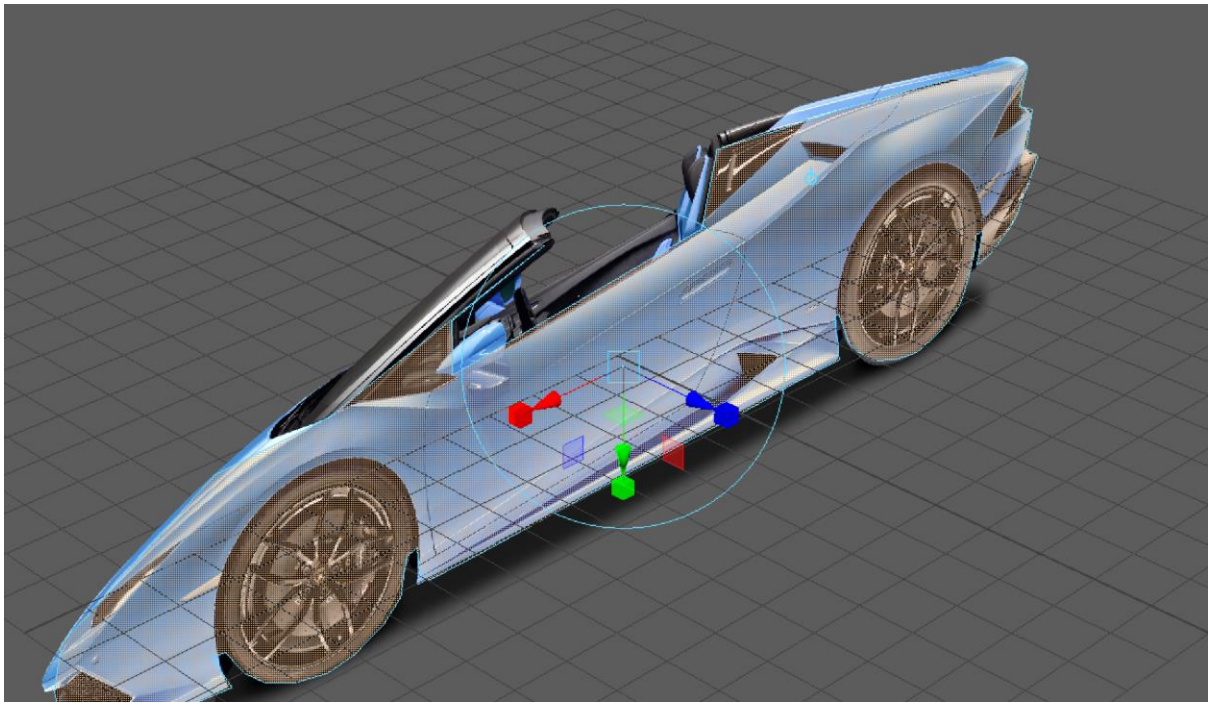
From here we want to extrude, the polysurface. First swap back to perspective view.



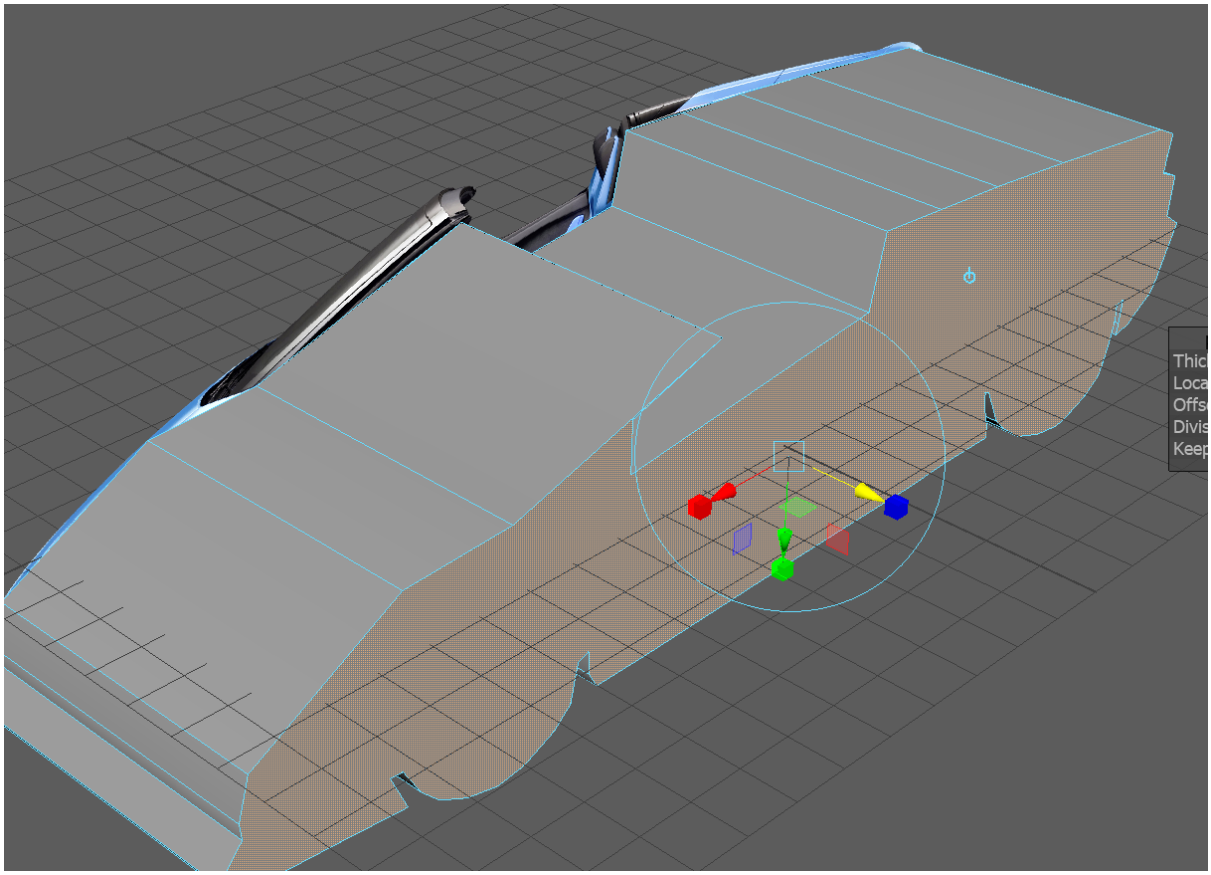
From here we will extrude the polysurface, then can be done through the menu system (Edit Mesh->Extrude) or by pushing Ctrl+E



Once you have extruded, you should see the following:



From here, grab the blue line and pull the model out to give it full shape.

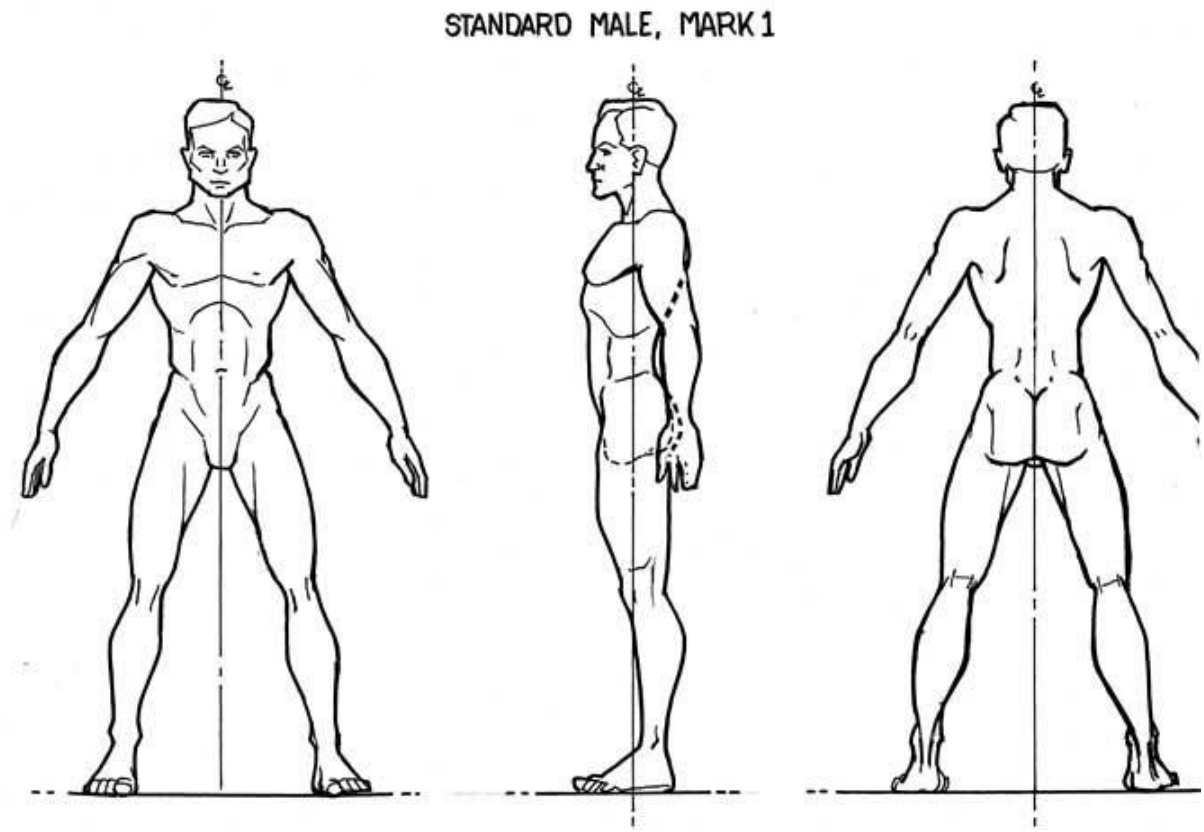


From here you can add additional edges to the model to start tidying up and giving it more depth.

Build Object: Quick Model - Human

Aim: Using a simple image, applied to image maps, a fast extrapolation of a human character will be built.

Create an image file (jpg/png) from the below image.

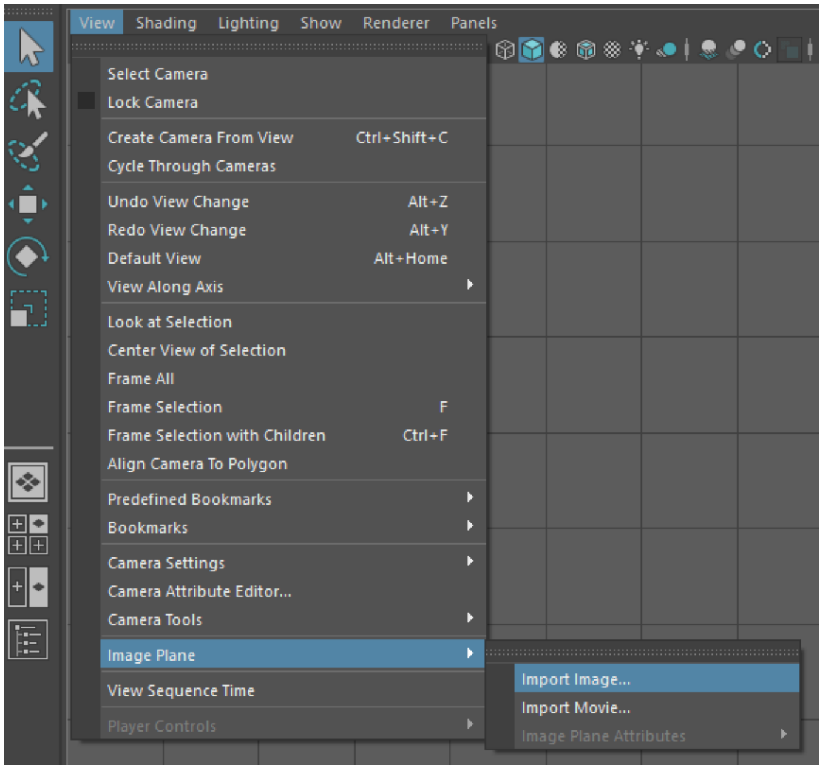


To use this reference image, we will need to go into the 4-split view from perspective view. This can be done using the spacebar or, by clicking on the 4-way panel layout shown in the toolbar.

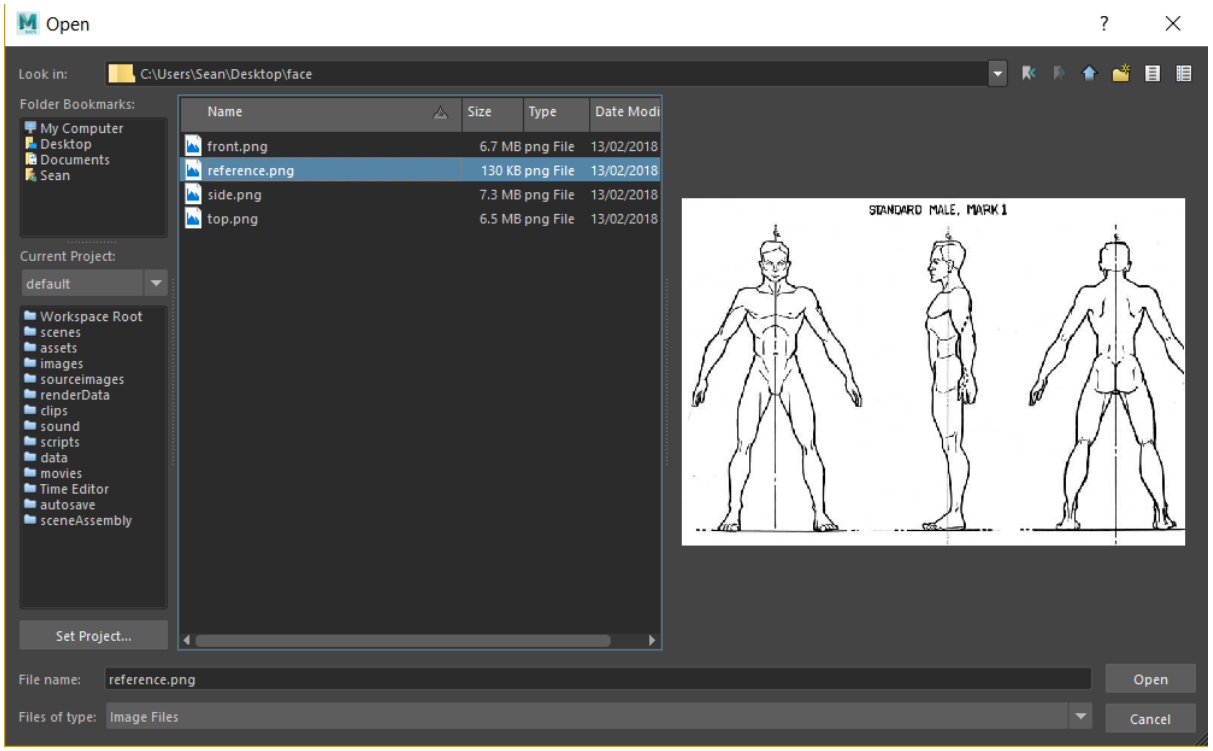
As you can see, the toolbar offers single view(Perspective), the 4-way view (perspective, front, side and top) a 2-way split (defaults to front and perspective) and the outliner panel hide/show option.

From the 4-way, left click on the front view and hit spacebar. This will maximise the front view.

To insert an image plane, select view -> image plane -> import image from the drop down menu on the view.

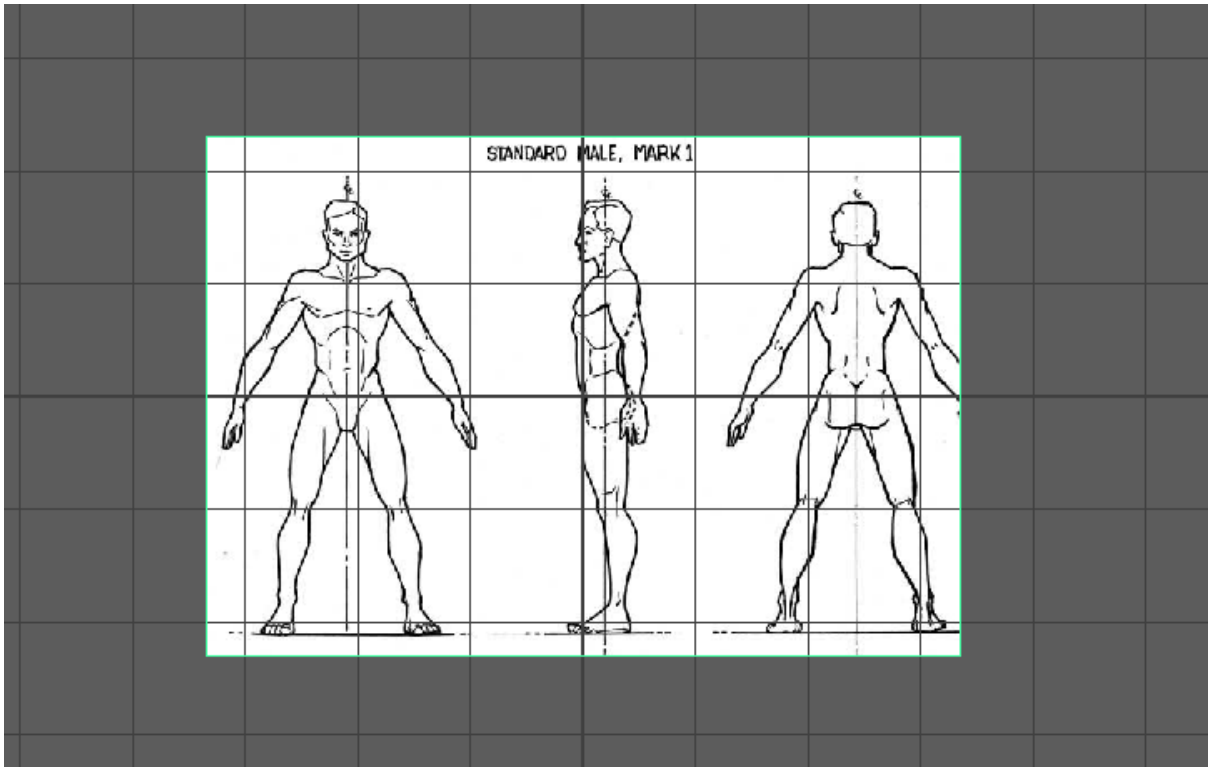


Browse the computer's files to locate the reference image. In this case, I downloaded the reference image into a folder called face on the Desktop.



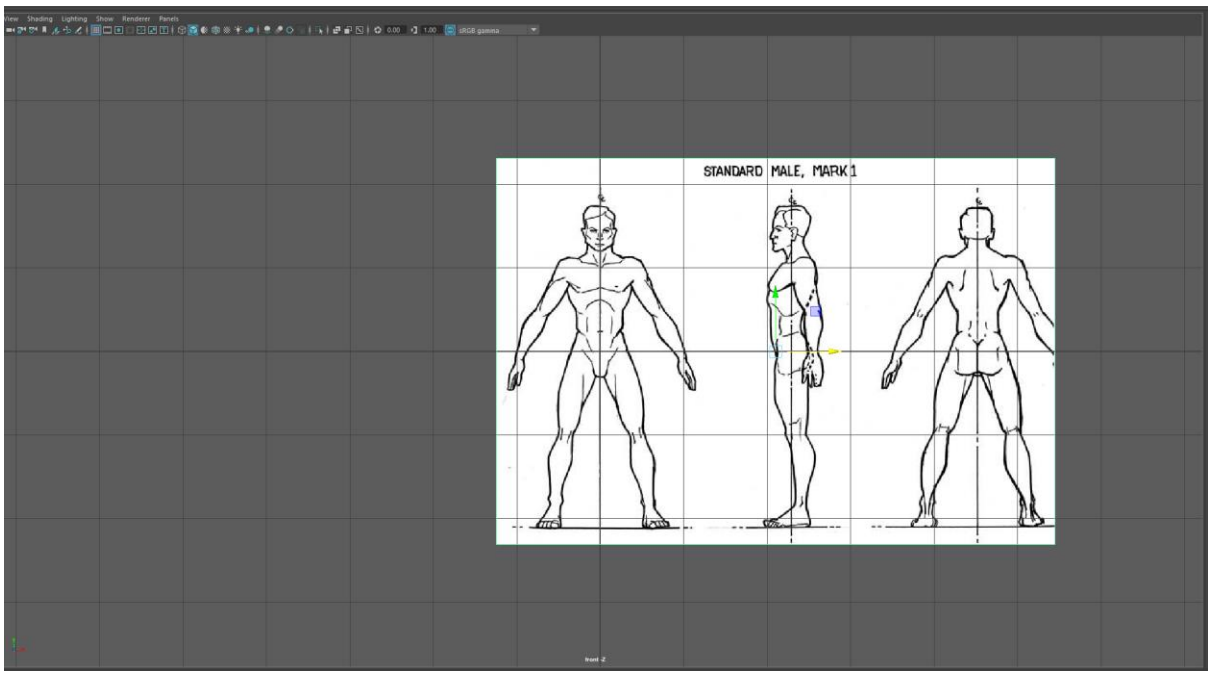
Select Open to import the image into the view.

The image is imported into the center of the screen, with the centre of the image placed appropriately.

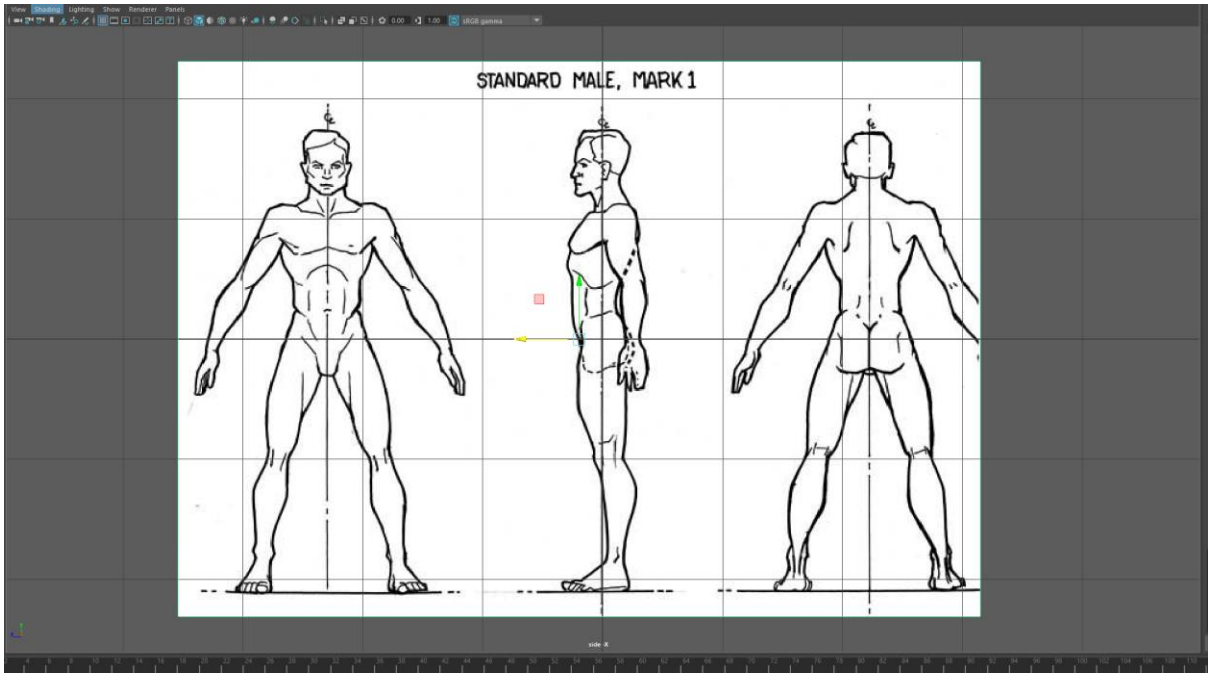


As the primary focus of the image is the side view, move the image (W) to centre the front view into the centre of the screen.

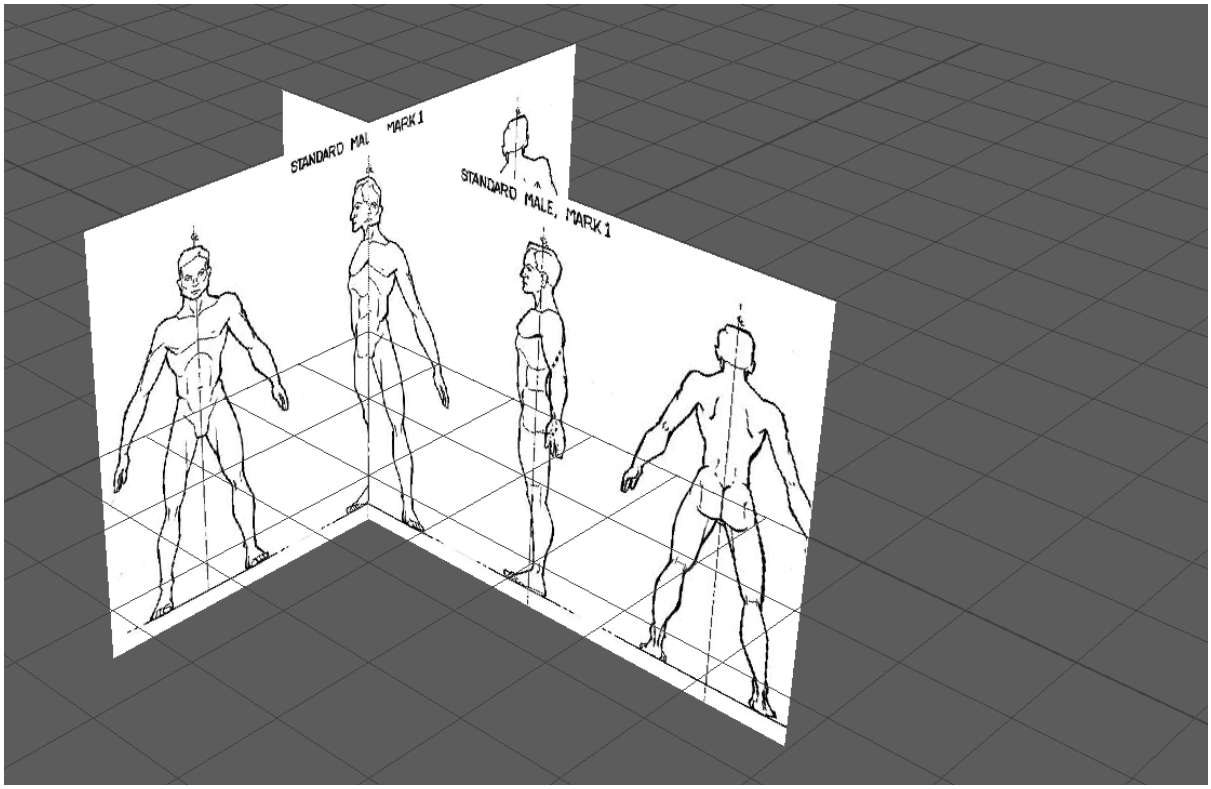
Scroll in as needed to align.



Next swap the view to the side view, repeat the import on the side view. And positioning of the image.

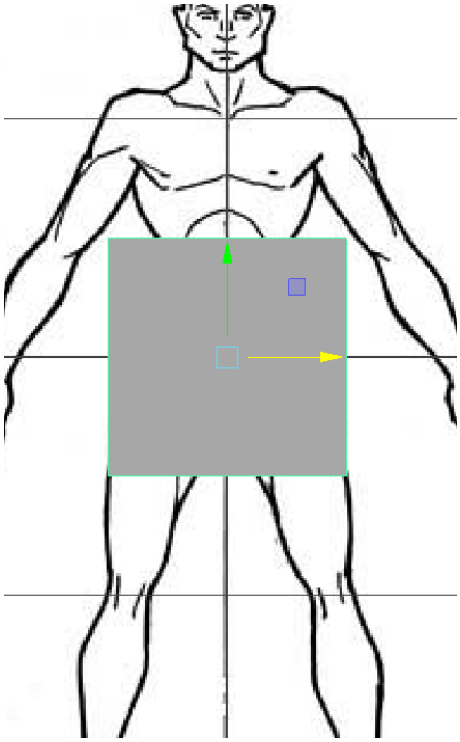


Now, if you look at the perspective view you should have something like this:

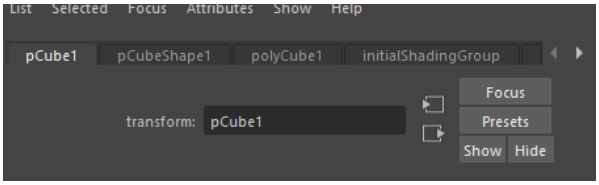


This has now supplied us with a width, height and depth for the character, from here move back to the front view and we will start modelling the character up.

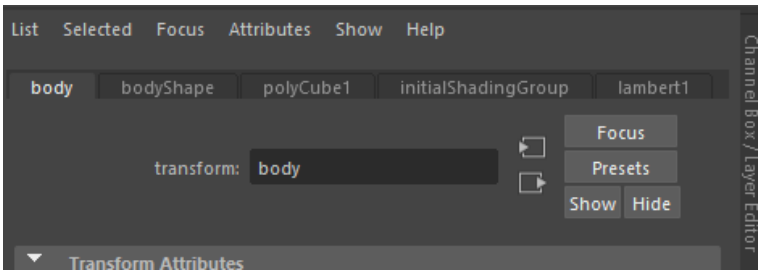
Zoom in until the primary focus is the front image. From here we will start modelling a rough out line of the character. Create a cube on the view.



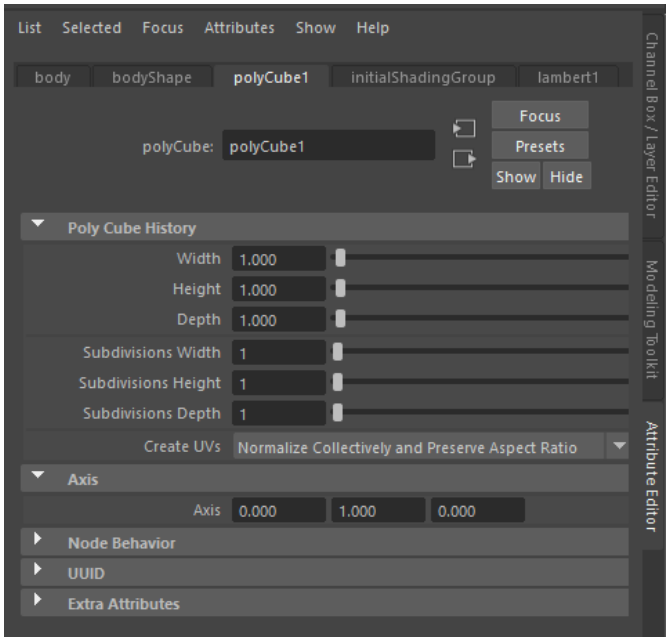
From here, go to the attribute editor and select pCube1.



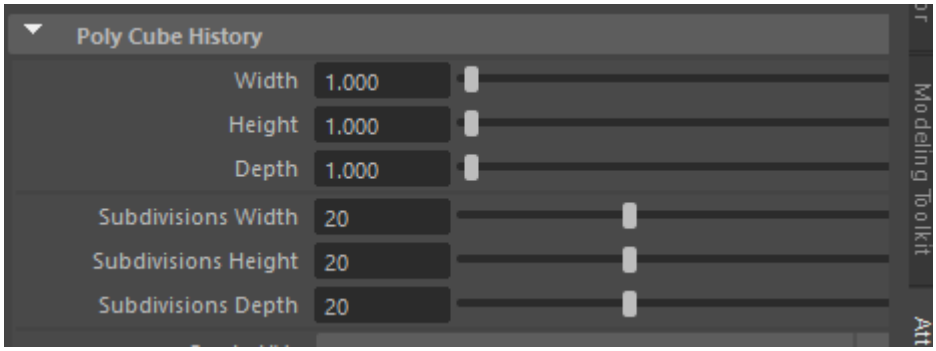
Rename the Cube from pCube1 to Body.



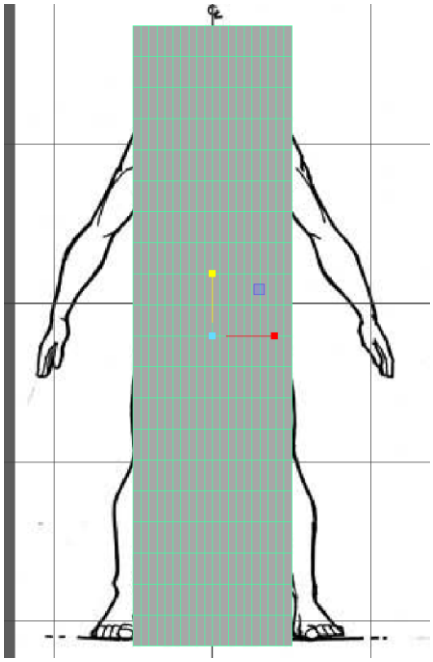
Next go to polyCube1



From here, increase the subdivisions to 20 for width, height and depth.



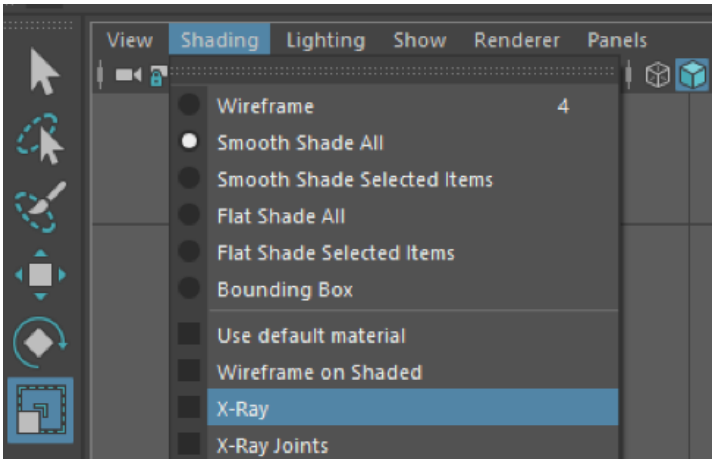
The select the whole object from the view panel and scale it to match the height of the image.



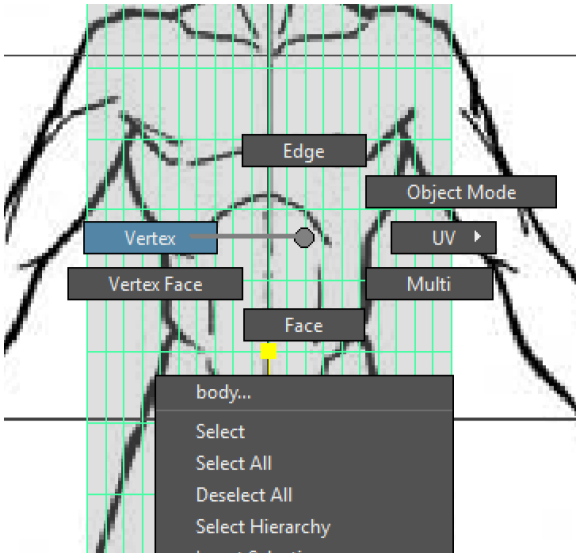
From here, we can swap from object mode to vertex mode and start positioning the edges around the character being presented.

To do this, the first thing to do is to turn on x-ray to we can see the model underneath.

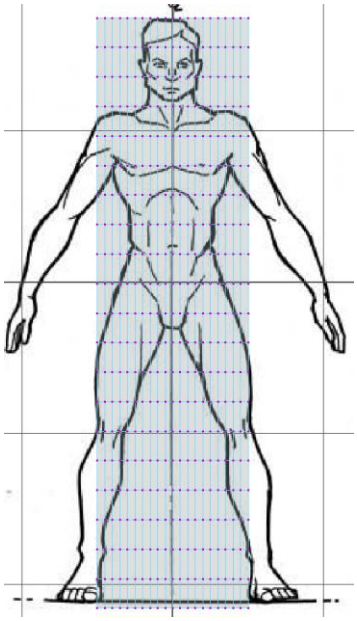
In the menu system of the view panel, go to shading->X-Ray



Now that this has been done, right click on the cube, select vertex.



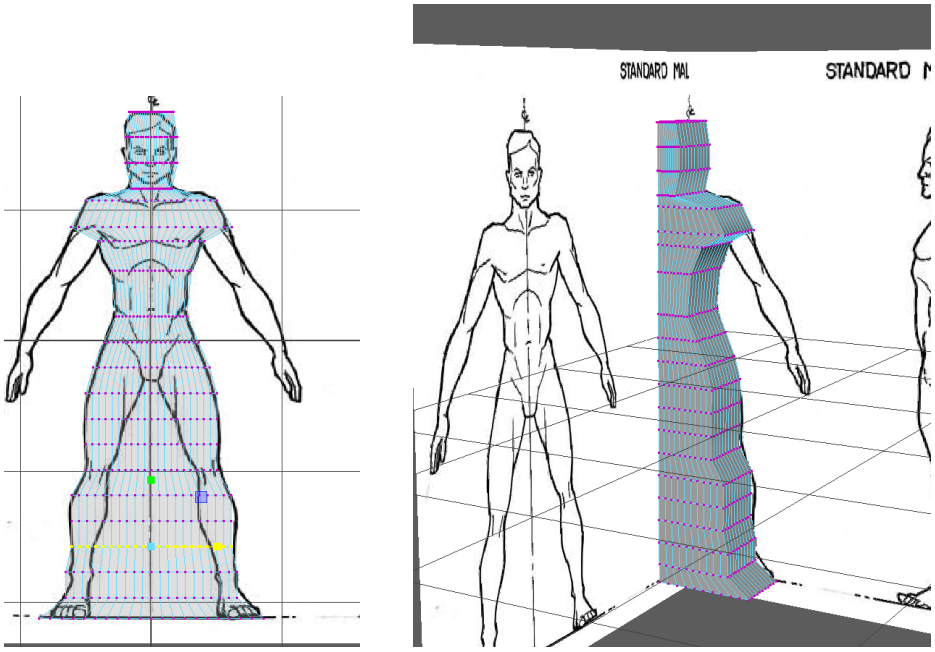
This will change the view to look like this:



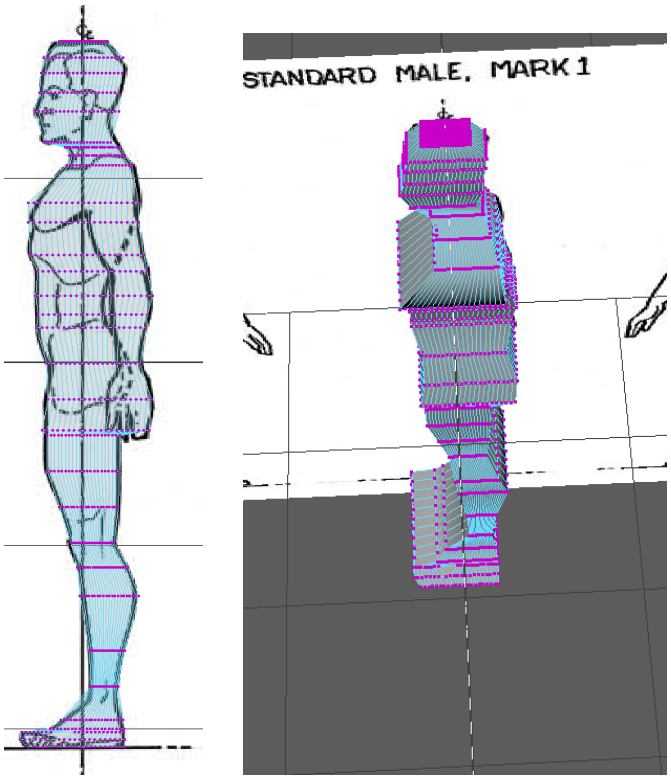
From here, start dragging and positioning vertex points around the image. Match the points to the best you can now. Don't worry about defining the gap between the legs and arms.

You can select groups of vertex by highlighting them and then use the move and scale tool to position the vertex in as close as possible.

You should end up with a look like this (front and perspective):



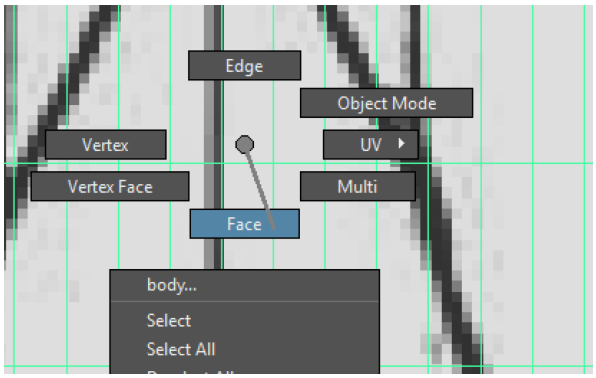
From here, go into the side view and do the same thing. Apply X-ray to the shading and then start manipulating the vertex.



As you can see it is starting to take shape. When doing this type of modelling, feel free to add additional vertex's as you see fit.

The best way to do this is to go from Vertex to Edge, then use the Insert Edge loop tool. As this will maintain a consistent row of vertex to manipulate.

Now we will eliminate and move faces to weld elements together. To do this, select faces on the model.

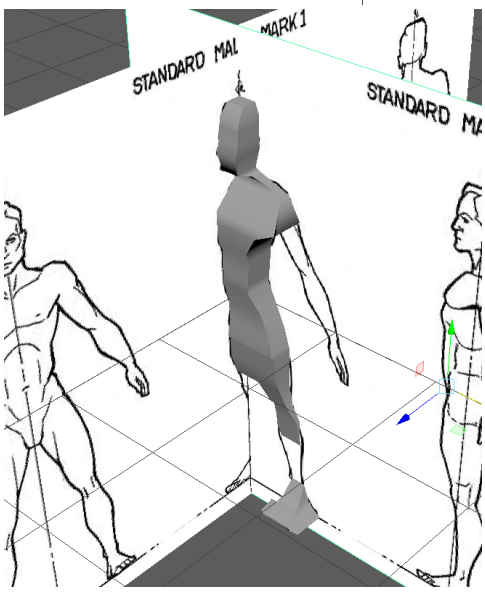


When deleting we want to delete through the model, to ensure this happens hold down shift whilst highlighting multiple faces.

To start with delete faces that are around the legs, but ensure that there is sufficient model edge near the leg itself.

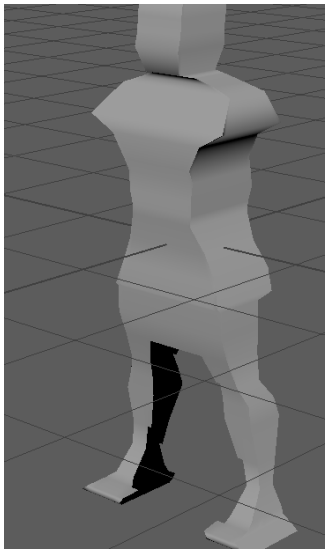
Once you have deleted enough faces, go back to vertex mode and re-position the edges to match the reference.

Once you have tided up the legs and groin area, go to perspective view.



From this view, our model is blocked by the image planes, to fix this open up outliner panel, select both image planes and hide them, using ctrl+ H; to bring them back, highlight the image planes in the outliner and push shift+h

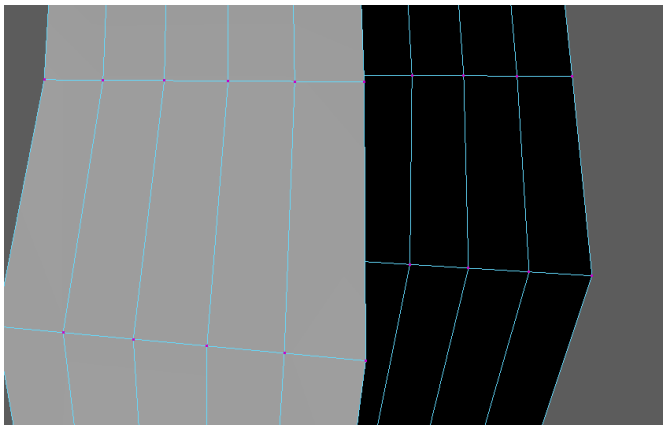
This should give you the following



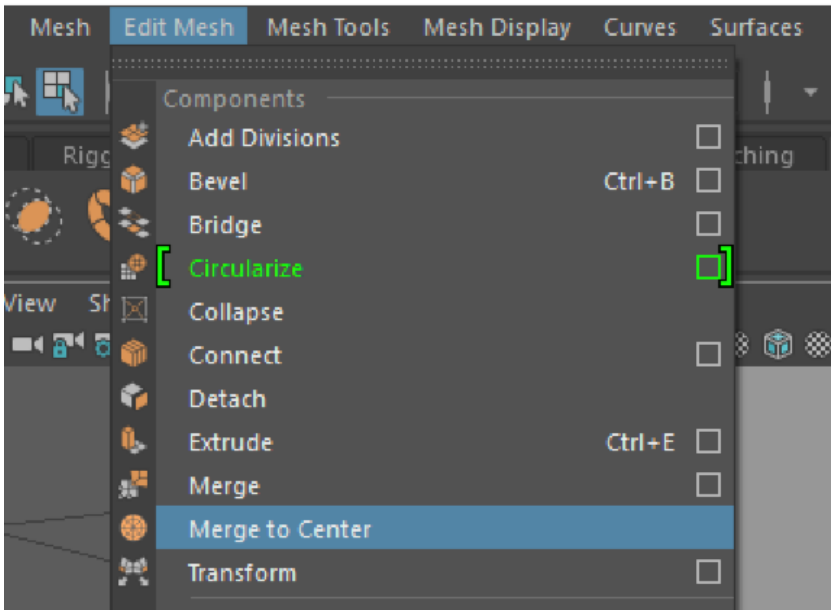
The black parts of the model is where there are no faces, so from here we will need to link and create faces for the legs. Remember at this point in time, only faces for this model have been cleared around the base of the legs.

To improve the curvature of the model, you can press numbers 2,3 or 4. This will add additional faces to the model and round it out more.

To create new faces, zoom into the legs in perspective mode and go to vertex view and zoom in on the leg area.

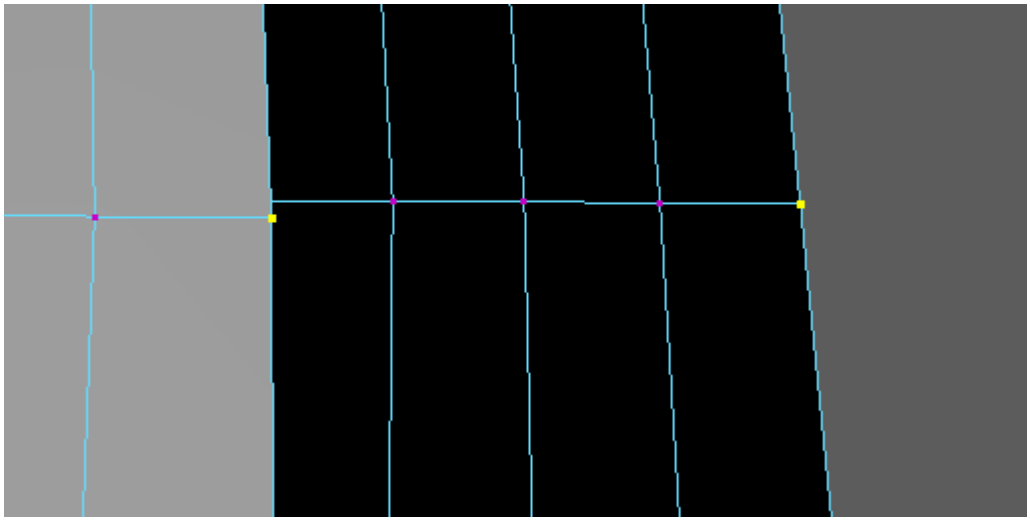


From here, quickly add the merge to centre tool to your custom shelf.

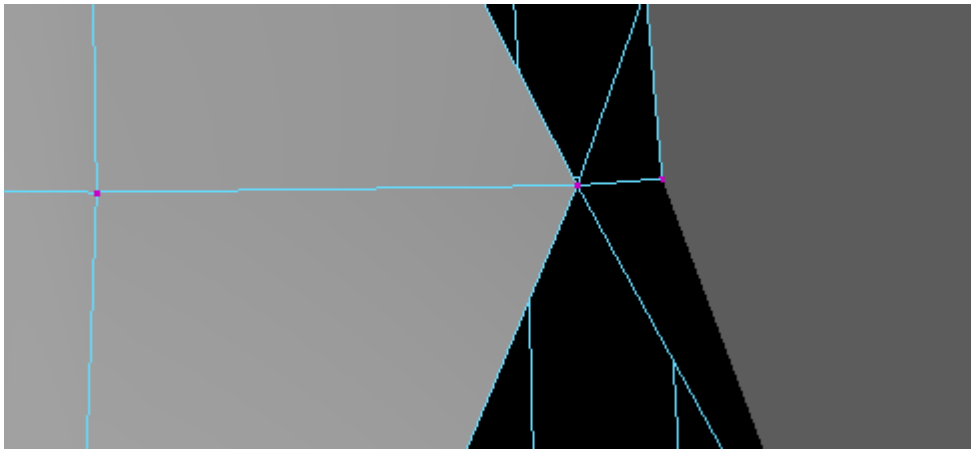


Your shelf should look like this:

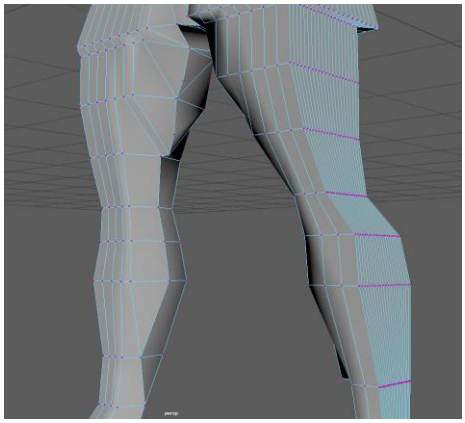
From the leg, select two opposite vertex, they will highlight yellow once selected.



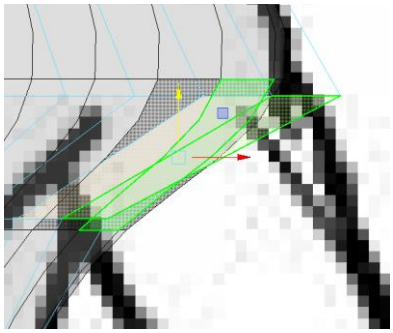
Next click the merge to centre button you have just added. This will pull the two vertex together and combine, which is the start of ensuring the legs have faces all the way around. Repeat for both legs.



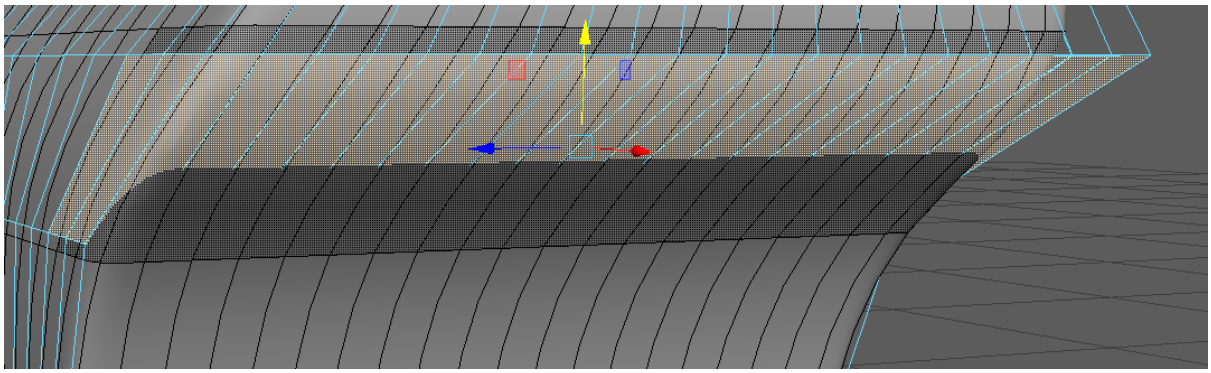
Once you have completed, the legs should look like:



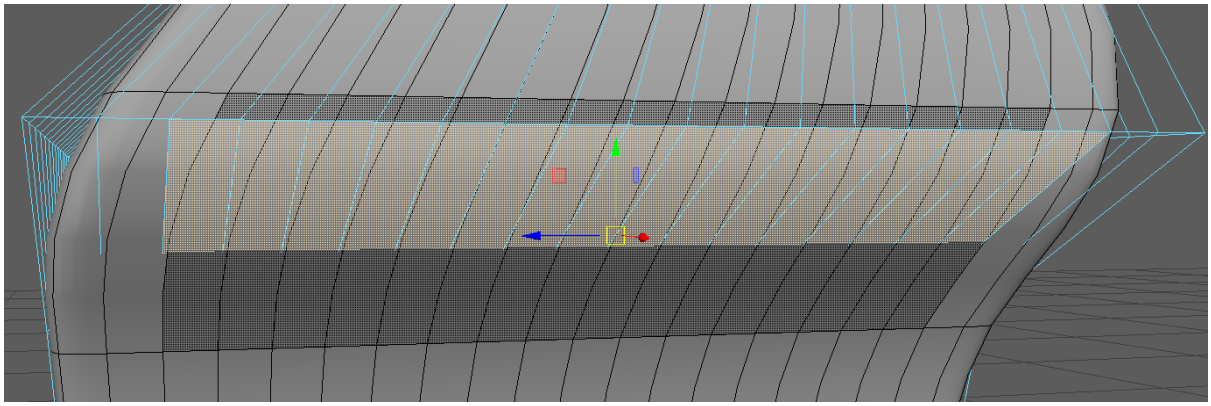
The next part of the model is to extrapolate the arms. Go to the front View. Switch your selection mode to face and highlight the area where the arms would appear.



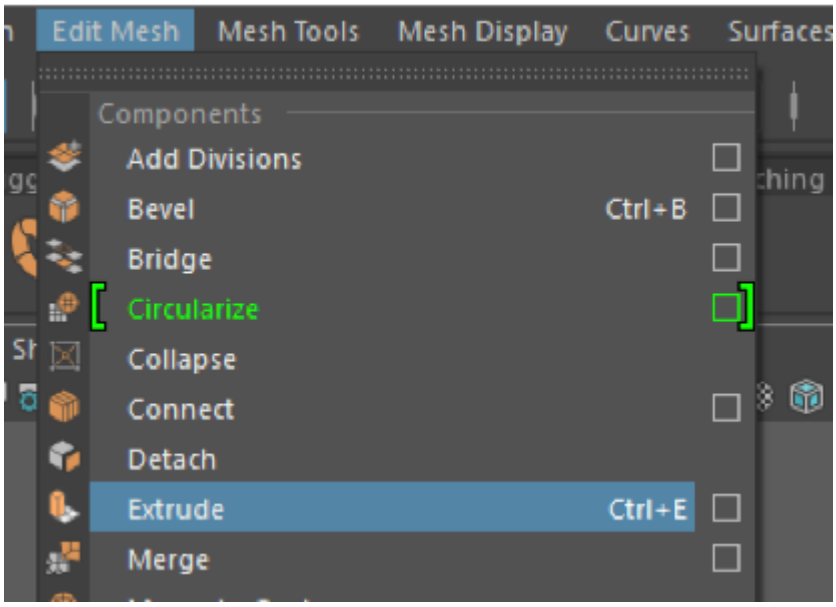
From here switch back to perspective view and rotate and zoom into the part of the body. Turn off the image map so you can see what is occurring on the screen.



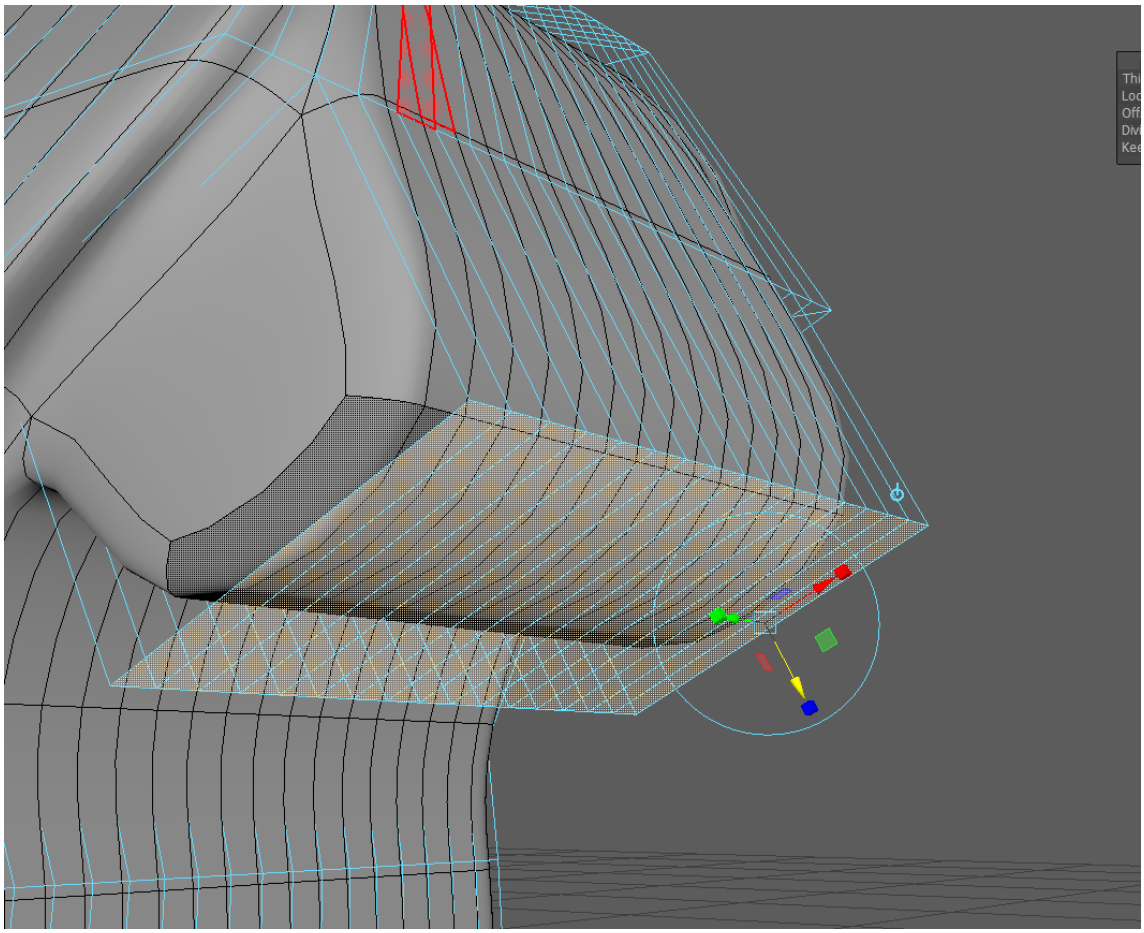
From here, deselect the faces from the front and back of the model, this is done by holding down shift whilst clicking.



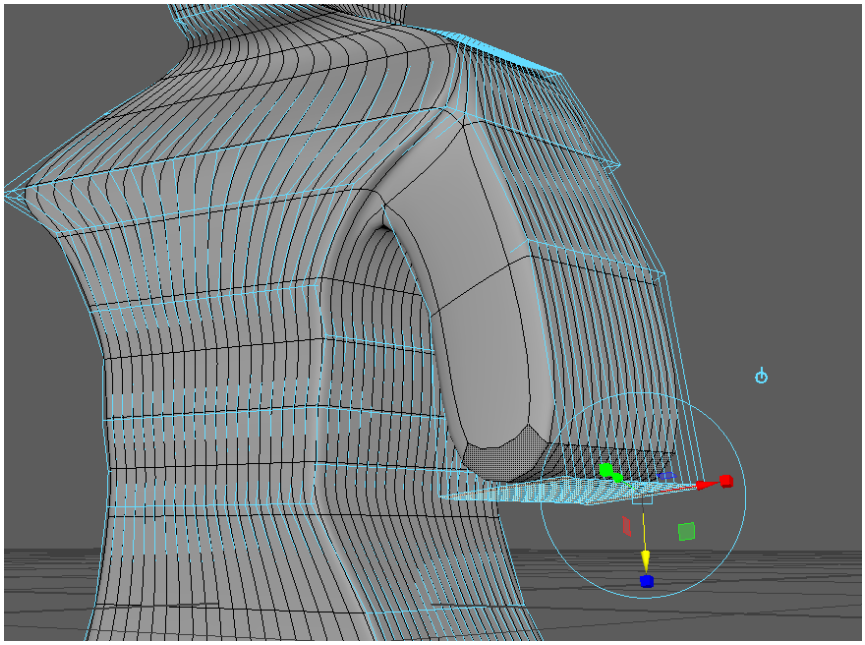
Next, we click Extrude from the edit mesh menu



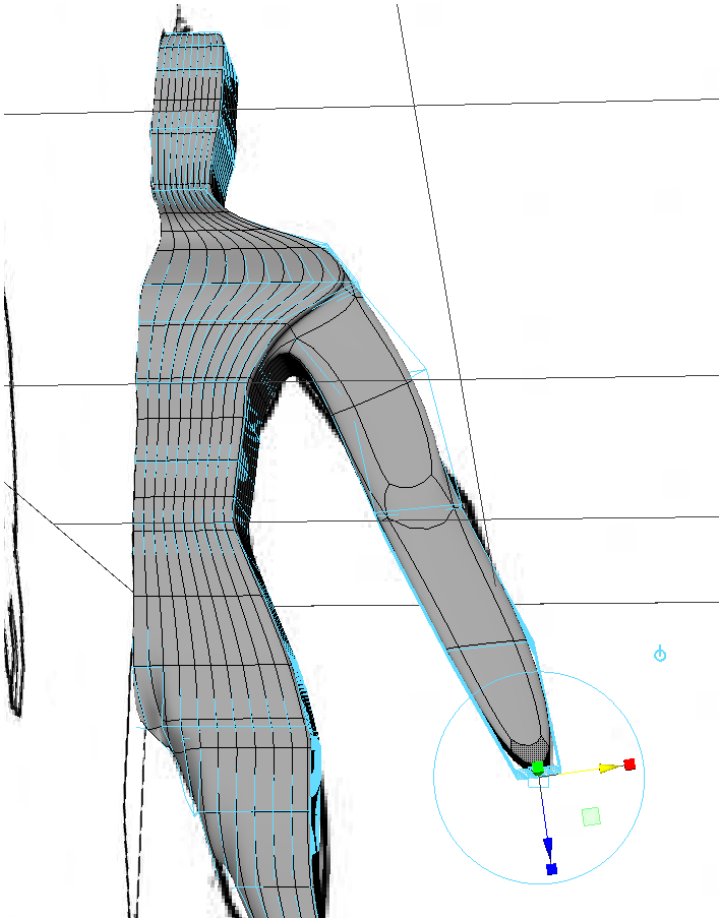
When you extrude the cursor no longer displays a single element of move, rotate and scale but a combination of them all. Grab the move tool and pull the arm out of the model.



Once you have pulled the arm out a little bit, do another extrude and expand the arm more.

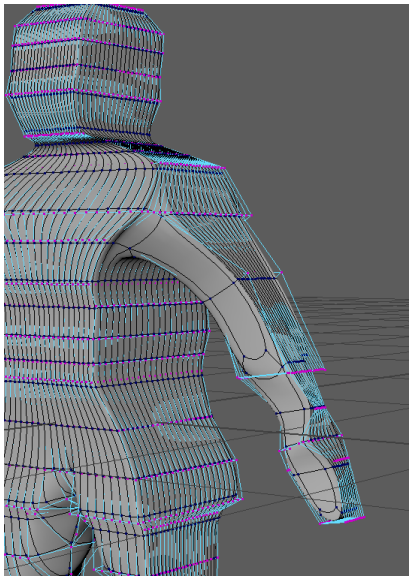


From here, unhide the image maps and extrude the arm to a full length.



Once this has happened, switch to vertex mode on front and side and model the arm into shape. Using the same techniques as before.

After you have completed one arm, repeat for the secondary arm.



This is one of many methods used for modelling, the purpose of this was to get you to be able to manipulate the tools and build something humanoid.

Try the same method with creating a face, using the images located on L@G;

This will provide good practice depending on the game design you are working on.

For faces, this is the best online tutorial I've seen created by James taylor:
https://www.youtube.com/watch?v=vhtI-vKx8YY